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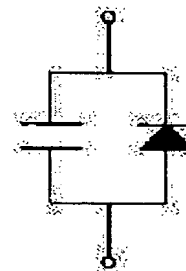
## (54) FORMING METHOD OF THIN FILM CAPACITANCE ELEMENT

## (57)Abstract:

**PROBLEM TO BE SOLVED:** To enable easy and effective manufacture of a thin film capacitance element having rectification characteristics, by performing reverse sputtering in an Ar atmosphere, generating oxygen deficiency in a dielectrics layer, and sputtering upper electrode material, when an upper electrode is formed.

**SOLUTION:** A dielectrics layer is formed on a lower electrode by using a sol-gel method. After that, in the case that an upper electrode is formed by using a sputtering method, reverse sputtering is performed in an Ar atmosphere, Ar particles are made to collide against the surface of the dielectrics layer, and oxygen deficiency is generated in the dielectrics layer.

Sputtering of the upper electrode is continuously performed in an Ar atmosphere, subsequently to the reverse sputtering. The reverse sputtering is performed during 1-2 minutes under the condition that Ar flow rate is 10-20 sccm and RF power is 200-400. A thin film capacitance element obtained in the above process has excellent rectification characteristics besides the original dielectric characteristics, as an equivalent circuit.



## LEGAL STATUS

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